

to simplify matters, we have used the year 1907 as a base and have represented the figures for that year as 100, so as to secure the index numbers for each subsequent year:—

Year.	Gross earnings per mile (omit cents).		Operating expenses per mile (omit cents).		Net earnings per mile (omit cents).	
	No.	Index	No.	Index	No.	Index
1907	\$6,535	100	\$4,620	100	\$1,914	100
1908	6,397	98	4,672	101	1,724	90
1909	6,017	92	4,339	94	1,678	88
1910	7,033	108	4,868	105	2,165	113
1911	7,430	114	5,158	112	2,271	119
1912	8,209	123	5,639	122	2,569	134
1913	8,750	134	6,204	134	2,511	131
1914	7,893	121	5,811	126	2,081	109
1915	5,616	86	4,152	90	1,464	76
1916	6,943	106	4,823	104	2,120	111
1917	8,051	123	5,774	103	2,277	119
1918	8,493	130	7,046	153	1,447	76

This table puts before us some valuable data as a basis of certain conclusions which seem to be inevitable. While the gross earnings per mile increased 30 per cent., the operating expenses increased almost twice as much—namely, 53 per cent., and the net earnings suffered a reduction of 24 per cent.; in other words, while the gross earnings from operation increased by 30 per cent., the net earnings are only three-fourths of what they were in 1907, due to the fact that the expenses of operation have been increased by more than half what they were in that year. It cannot be wondered at, therefore, that, since operating earnings have increased only 30 per cent., while operating expenses have increased 53 per cent., there should be a state of decadence over the railway field as a whole. Of course, these greater operating expenses have been due to the fact that the increase in rates allowed did not begin to keep pace with the vastly higher prices paid for materials and higher wages paid to labor. Yet every time there has been an attempt on the part of the railways to secure an increase of rates, there has been a loud and voluminous outcry against it. Another important thing which is revealed by this table is the sudden changes which may occur in net earnings from one year to the next. Note the change in the index numbers for net earnings, for instance, from 88 in 1909 to 113 in 1910, and the still more spectacular changes from 109 in 1914 to 76 in 1915, and from 119 in 1917 to 76 in 1918. These facts indicate with intense emphasis that in the case of the railways there are abrupt changes from favorable earnings to very real distress.

Operating Ratio is Now High

One of the most valuable indexes in regard to railway operations is the operating ratio, that is, the proportion which the gross expenses of operation are of the gross earnings of operation. Knowing how much of the gross earnings is expended in the working of the property, we have a good guide as to the efficiency of the management; for if, under normal conditions, two roads traverse the same territory and have the same kinds of business, and the operating ratio of one is 70 per cent., while that of the other is 80 per cent., it is at once an indication that the former is managed with much greater economy than the latter. Similarly, if the average operating ratio of the railways of the country at one period is lower than that at another period, the indication is that the conditions for economical operation are more favorable at the former than at the latter period. To show the trend in Canada since 1875, we present the averages for all the railways as follows:—

Railway Operating Ratio by Periods		
Years.	Average by 5-year periods.	Average by 10-year periods.
1875-1879	80.7	77.4
1880-1884	74.2	
1885-1889	72.8	71.9
1890-1894	71.0	
1895-1899	67.4	68.6
1900-1904	69.8	
1905-1909	72.1	71.2
1910-1914	70.3	
1915-1918	74.5	74.5

In the early years, the amounts of traffic offered to the railways, and consequently the gross earnings of the railways, were very small, while the expenses for upkeep of

roadway, structures and equipment were large. It was inevitable, therefore, that the operating ratio should be high. In the first three years of our railway history, beginning with 1875, it was over 81 per cent., while in the first five years after that date, it was 80.7 per cent. But with the filling up of the country and the increase of traffic the revenues were augmented, the operating expenses began to decline, relatively, and, as a consequence, the operating ratio became lower and lower until the lowest point was reached in the last years of the century—in 1899 it was 65.3. Since 1900 the movement has been gradually upward, with occasional yearly relapses. In 1915 it was 73.9 per cent.; in 1916, 69.5 per cent.; in 1917, 71.7 per cent.; and in 1918, 83 per cent. This latter figure shows very clearly the vast changes during that fiscal year, as compared with previous years, in regard to higher wages and higher cost of materials. But if we look at the figures for 10-year averages, we note the steady decline in the operating ratio down to 1899 and the continuous advance since that time. These figures show clearly that for the railways the cost of doing business is steadily advancing and that their outlay for operation is increasing far more than the increase in their gross earnings. This is an additional confirmation of what we have already shown when considering the increase of operating expenses and the decrease of net earnings. It will be universally granted that this increase in operating ratio is not due to less efficient management of the railways as a whole, but is due to the fact that the earnings of the roads are no longer sufficient to pay the extremely high wages and prices required in the upkeep and operation of the properties and still keep net earnings that are high enough to tempt new capital into the field.

Comparison of Roads

Turning from the operating ratio of the railways as a whole, it is instructive to examine the facts in this respect for the five great systems of railway in the country. How do they compare with one another in regard to this vital point, the operating ratio? We have set down the facts in the following tabular form:—

Operating Ratio for the Years						
Railways.	1913.	1914.	1915.	1916.	1917.	1918.
Canadian Pacific	67.8	68.2	66.3	62.8	65.9	74.2
C.N.R. system	70.6	68.7	82.6	71.1	71.7	87.4
G.T.R.	69.1	72.3	75.8	73.5	71.9	84.9
G.T.P.	89.1	92.1	110.8	84.8	103.1	105.3
C.G. Rys.	101.3	102.3	100.8	85.0	90.9	116.7

In the first place, the facts here shown for individual systems of railway confirm what we have shown above for the railways as a whole—namely, the great increase in the operating ratio, particularly for the last year for which we have complete statistics. From information privately gathered it is indubitable that this higher operating ratio was continued for the fiscal year ended June 30, 1919. Until the last few years any railway in Canada or the United States which showed an operating ratio above 69 or 70, had to justify that higher ratio in order to stand well in the eyes of the investing public; and it will be seen that the Canadian Pacific was well below that normal or standard. The Canadian Northern and the Grand Trunk usually approximated closely to this standard. But when we look at the figures for the Grand Trunk Pacific and the Canadian Government Railways we find that both these had an operating ratio far in excess of the others. In the case of the Grand Trunk Pacific, the line was put through long stretches of new territory, with only a small amount of traffic to offer, in order to open up these sections of the hinterland to settlement. It was natural, therefore, that the revenues of this line should be meagre, while at the same time a large expenditure was required for even the small amount of traffic. This would explain in a large measure the high operating ratio of this western line. As for the Canadian Government Railways, their high operating ratio is due to the fact that they are badly located for the development of traffic and for economical operation, that their rates have been kept too low, and that all the evils of patronage, political corruption and financial debauchery have been manifested in connection with them. It will be noted that, in the case of the Grand Trunk